Amendments to the claims

1.   (currently amended) An apparatus for determining an error ratio of individual channels of a WDM optical signal, comprising:

a wavelength-selective filter for separating the individual channels of the WDM signal;

a measurement circuit for measuring an error ratio of one channel using a first decision threshold level, the measurement circuit being operable to cycle through all channels, taking an error ratio measurement for each channel in sequence with a predetermined decision threshold level; and

control circuitry for altering the decision threshold level for successive cycles of the measurement circuit,

wherein measured error ratios for each channel using different decision thresholds are combined to determine a channel error ratio.

2.   (original) Apparatus according to claim 1, further comprising an error warning indicator which provides an error warning when a measured error ratio exceeds the expected error ratio for the particular decision threshold being applied by a predetermined amount.

3.   (original) Apparatus according to claim 1, wherein the measurement circuit measures an error ratio by monitoring the channel with the applied decision threshold level for a predetermined time period, which time period is constant for all channels and for all decision threshold levels.

4.   (currently amended) A method of determining the Q-factor of individual channels of a WDM optical signal, comprising the steps of:

(i)   separating the individual channels of the WDM signal;

(ii)   measuring an error ratio of each channel in turn using a first decision threshold level;

(iii)   repeating step (ii) for different decision threshold levels until measurement levels for all decision threshold levels have been obtained for each channel; and

(iii)   combining the measurement levels for each channel to determine a channel Q factor.

5.   (original) A method according to claim 4, wherein in the measuring step, the channel is monitored with the applied decision threshold level for a predetermined time period, which time period is constant for all channels and for all decision threshold levels.

6.   (original) A method according to claim 4, wherein an error alarm is produced if an individual measured error ratio exceeds the expected error ratio for the particular decision threshold being applied by a predetermined amount.

7.   (original) A method according to claim 4, wherein the error ratio is obtained by comparing the measured signal using the applied decision threshold with the measured signal using a default decision threshold.

8.   (original) A method according to claim 4, wherein the error ratio is obtained by using a data structure embedded in the channel data.

9.   (currently amended) A WDM optical communications network comprising a plurality of nodes, each node comprising an optical switching arrangement for performing routing of signals across the network, wherein the output path or paths of one or more nodes are provided with an apparatus for determining an error ratio of individual channels of the WDM optical signal, the apparatus comprising:

a wavelength-selective filter for separating the individual channels of the WDM signal;

a measurement circuit for measuring an error ratio of one channel using a first decision threshold level, the measurement circuit being operable to cycle through all channels, taking an error ratio measurement for each channel in sequence with a predetermined decision threshold level; and

control circuitry for altering the decision threshold level for successive cycles of the measurement circuit,

<u>wherein measured error ratios for each channel using different decision thresholds are combined to determine a channel error ratio</u> .

10.   (original) A network according to claim 9, further comprising an error warning indicator which provides an error warning when a measured error ratio exceeds the expected error ratio for the particular decision threshold being applied by a predetermined amount.

11.   (original) A network according to claim 9, wherein the measurement circuit measures an error ratio by monitoring the channel with the applied decision threshold level for a predetermined time period, which time period is constant for all channels and for all decision threshold levels.

12.   (original)A network according to claim 9, wherein each node is provided with an apparatus for determining an error ratio.

13.   (currently amended) A network according to claim 9, wherein each node is further provided with <u>an</u> optical spectrum analyzer.

14.   (currently amended) A node for a WDM optical communications network, comprising an optical switching arrangement for performing routing of signals across the network, wherein the output path or paths of the node is provided with an

apparatus for determining an error ratio of individual channels of the WDM optical signal, the apparatus comprising:

a wavelength-selective filter for separating the individual channels of the WDM signal;

a measurement circuit for measuring an error ratio of one channel using a first decision threshold level, the measurement circuit being operable to cycle through all channels, taking an error ratio measurement for each channel in sequence with a predetermined decision threshold level; and

control circuitry for altering the decision threshold level for successive cycles of the measurement circuit,

<u>wherein measured error ratios for each channel using different decision thresholds are combined to determine a channel error ratio.</u>

15. (original) A node according to claim 14, wherein the measurement circuit measures an error ratio by monitoring the channel with the applied decision threshold level for a predetermined time period, which time period is constant for all channels and for all decision threshold levels.

16. (original) A node according to claim 14, further comprising an error warning indicator which provides an error warning when a measured error ratio exceeds the expected error ratio for the particular decision threshold being applied by a predetermined amount.

17. (cancelled)

18. (original) A WDM optical communications network comprising a plurality of nodes and a plurality of amplifiers between the nodes, each node comprising an optical switching arrangement for performing routing of signals across the network, wherein each node is provided with an apparatus for determining the Q-factor of

individual channels of the WDM optical signal, and wherein each optical amplifier is provided with optical spectrum analysis apparatus.

19. - 25.   (cancelled)